

Good Morning 365

The Daily Paper of the Submarine Branch
With the co-operation of Office of Admiral (Submarines)

COWS MAKE MILK NEWS

"I'm going to attach twelve feed tubes, sir," she said. Yes, you have to know your switches to keep up with dairymaids in these days. Electric pumps, mechanical mixers, automatic churns, spanners and sterilisation plants—they're all linked up with milking the cows of 1944.

"And what is your fortune, my pretty maid?"

"A £70,000,000 industry, sir," she said.

The rhyme is topical. One maid, one pail, one cow, was the old dairy motto. To-day, the best cows, on the best farms, sleep snugly in centrally heated, tiled byres.

Some even travel lazily from the farmyard gate to the mechanical milker on an escalator.

Instead of dimpling demurely, an up-to-date dairymaid purses her lips as she takes up an acidimeter to see how much lactic acid the milk contains. Just a few drops of phenol phthalalein to make the milk turn pink as soon as the acid has been neutralised. Then a little caustic soda. But wouldn't it make the old-fashioned milkmaid's silly ears turn red!

Mercury vapour lamps, employed to distil the milk with health-giving vitamin D, mechanical bottle-filters, autoclaves and vacuum gauges, centrifugal cream separators, are all in the day's work to Mary of the Dairy—and the use of annatto dye to give just a little colouring to the butter.

Her cow world is filled with new ideas. Recently, for instance, it was discovered that calves could be treated with extracts of the thymus gland and made to become milk-bearing cows in a third of the time.

Because youthful cattle are not much help to the dairy-farmer, it is probable that within three generations all cows will be deliberately made middle-aged!

Before the war we had to throw away butter to the tune of hundreds of tons owing to the appearance of red and black spots on the product after cold storage. Even the scientific dairymaids couldn't tell what the spots were, but they preferred to play for safety.

A high percentage of the cheeses made in Britain, too, could not be sold owing to the appearance of white and yellow discolourations.

At the Institute for Research in Dairying, at Shinfield, Dr. A. T. R. Mattick traced the cause to bacteria which produce colouring pigments, but are quite harmless to human beings.

New research in cheese and butter wrappings, proofed against bacteria, have now eliminated them.

In an old manor farmhouse near Reading a group of scientific dairymaids are studying just milk. Already they've learned that milk contains at least 108 ingredients. Such substances as hydroxyglutamic acid, hypoxanthine and tyrosene sound like deadly poisons . . . but they all help to make milk richer and better.

The rationed public wants milk containing lots of cream. So the "pretty maids" are breeding stock, feeding and experimenting to produce milk with more fat content. Sometimes the 1944 dairy-

TO-DAY (Says Pete Davis)

maid is dissatisfied with the amount of butter obtained from the milk of a certain farm. Then she pops into the laboratory, and, skilful as any analyst, tests the butter for the exactness of fat.

Into her test bottle go ten cubic centimetres of sulphuric acid, in goes the milk, plus amyl alcohol. Then, in a centrifugal machine, the sample bottle is rotated rapidly. When it emerges there is a clear yellow column of fat, which can be accurately measured.

The ambition of many wartime dairymaids is to take a degree in science after a three years' course of dairying at an agricultural college.

"Where are you going to, my pretty maid?"

"To milk those blank cows again, sir," she said.



They're keeping 2-Wheeler going, O.S. Leonard Herbert

RECOGNISE this bike, O.S. Leonard Herbert, of 69a Perth Street, Hull?

It's the one you spent thirty bob on before you went away. Cleaning it, under the watchful eyes of your mother, are your sisters, Olwen and Mrs. René Markwell.

Olwen told "Good Morning" that you think a lot about the old two-wheeler.

She recalled the thirty bob you spent putting it in trim so that it would be ready for you when you come home. And she has not forgotten that Jack Warner order you gave her—"Mind my bike."

Well, Leonard, it's up to you to discover from the photograph whether she's obeying orders or not. Better look closely at the mudguards, for Olwen said something about them that you're not going to be told.

When we called at your home, Olwen had honestly got

BRITAIN has not only out-fought the Axis in the air, on the seas, and now on the land, but out-thought it in her laboratories. The two battles are, of course, closely connected.

And it is hardly an exaggeration to say that Hitler lost this war in 1933—before he had made his weapons or trained his men.

As soon as he gained power he started measuring the merit of his university professors and scientists of all kinds by their race and political creed. He literally "blew out Germany's brains" when he sent hundreds of her most brilliant scientists into exile and forced the rest to work to a pattern.

This does not detract from the positive merits of British and American scientists in the war of the laboratories. The most spectacular victories, of course, have been over Germany's surprise weapons. Hitler's "secret weapon" to which there is no reply, which he boasted of soon after war broke out, is now known to have been the magnetic mine.

The Commander of the "Graf Spee" boasted of it in South America, and it does seem as if the German leaders really believed there was no reply—testimony to their lack of scientific training and the fear of their scientists to speak up, for any scientist knows there can be no weapon to which there is no reply.

By T. S. Douglas

The story of how British scientists took twenty-four hours to find the answer to the magnetic mine is now well known. It makes the "Graf Spee" Commander's statement, "I know there is no reply because our best scientists have sought it for eight years without finding it," seem rather funny!

There have been many other great defensive successes in the laboratory of which details have been kept secret. But there have been others which, although much less spectacular, have played an equally important part in winning the war.

When Japan captured more than 90 per cent. of the sources of our rubber, her leaders no doubt thought they had struck a mortal blow, for they knew that the methods of making synthetic rubber had not been perfected.

That blow was countered in the laboratories, where dozens of British and United States chemists performed the apparently impossible and ensured that a sufficient supply of good synthetic rubber should be available before our stocks of natural rubber ran out.

An astonishing fact is that the chemist who played a leading part is the same one who "saved the British Army" (the words are Mr. Lloyd George's) in the war of 1914-18. He is Dr. Weizmann.

Mr. Henry Wallace, the U.S. Vice-President, said recently: "Dr. Weizmann came over to this country because he saw us on the point of making some very serious mistakes with regard to our rubber programme. The full story of Dr. Weizmann's achievement can only be told after the war. All that can be said now is that rubber stocks remained until recently one of the chief problems of the British and United States Governments."

Dr. Weizmann is only representative of hundreds of men on both sides of the Atlantic engaged in the battle of the laboratories. Some of their work may seem, even to those engaged on it, dull and academic, very far from the war, but it



is on this solid foundation that victory in the laboratories is built.

The Nazis, with extreme vanity, thought that if they took all the scientists off "theoretical" work and put them on problems directly connected with the coming war, they would get more results. They did not realise that "pure science" is the basis of all invention.

British politicians, if they have scoffed on occasions and asked "What use is it?" have at least left the scientists alone, so that when war came and urgent problems had to be solved, the men with the right training were available.

The United Nations have gained also in the Battle of the Laboratories by one hundred per cent. co-ordination and pooling of knowledge and results. Britain has long had scientific partnership with the Dominions. Early in the war, scientific co-operation was secured with the U.S.A., which in turn has similar co-operation with the other countries of the British Commonwealth.

In 1941, the Royal Society called a conference of the countries of the Empire and the secretaries of the three great research councils to discuss how this co-operation could be improved, not only for the emergency of the war, but also in peace.

Modern war is largely a matter of man-power, the solution of the problem of how to keep in the field a large force of better-armed men than the enemy, the "catch" being that if you put too many men in the field you have not enough to make arms for them.

Germany tried to solve the problem by enslaving Europe and taking 12,000,000 foreign workers into Germany. We have tried to solve it by improving the output of each man (and woman), and thus making one pair of hands equal two.

A few figures show how this has been done. A new method of forging steel for shells of all calibres, from 25-pounders to 9.2 howitzers, has saved 18,000,000 man-hours of work—and 400,000 tons of steel, which in themselves represent millions of hours. The new bayonet is made with 40 per cent. less labour and 50 per cent. less steel. The rifle it fits on is now made with one-fiftieth the man-hours required in 1939.

Taking all our engineering works, the increase is 23 per cent. since war began, but the

Women play big part here

increase in labour has been only three per cent. In America, of course, they have been doing the same. The labour required on one fighter plane, for instance, has been reduced from 232 to 11 man-years; on a Liberator from 444 man-years to 17 man-years.

These vast savings have, of course, been made not only by scientists and engineers, but also by the men on the job, putting forward ideas and inventions. Thousands of ideas and inventions have poured into the Ministry of Supply every month and been examined by a committee of experts. These are in addition to the many sent to the Admiralty and Ministry of Air and to individual factories.

In the past, in times of peace, we have been negligent in letting our inventions go abroad—the case of the aniline dyes, of powder metals, dehydration of food, have been quoted. In war-time we have given our scientists virtually unlimited money for research, and ample facilities—and they have won.

This time the Government has stated that the scientists will not be "demobbed", and forgotten. Funds amounting to millions will be made available for research, and many of the war-time laboratory triumphs will be turned to good peacetime use.

Unbreakable glass and glass that will float; wood that will not burn; motor-cars with three times the power for the same size and fuel consumption; vastly improved television; unburstable water pipes and waterproof and stain- and dust-proof furnishing fabrics, are just a few of the peacetime products we shall get as a result of the war-time battles in the laboratories.

Your letters are welcome! Write to "Good Morning" c/o Press Division, Admiralty, London, S.W.1

THE SECRET'S OUT

PART 5

HE forced himself to laugh, although he would have given pounds to have prevented Madge blurting out the story.

"Pieces of eight! Treasure Island! How too perfectly exciting! Do tell, Martin." His partner snuggled closer.

"There's nothing to tell," he said firmly. "I bought some old coins and made up a romantic story to amuse Madge. That's all."

"But were they pieces of eight?"

"I said so." He smiled in an enigmatic way.

"What a very superior person you are," she retorted peevishly. Harry Coswarth leaned forward. "You bought them from old Nickel, eh?"

Martin saw disaster if he could not stem this tide of curiosity. He must face the problem boldly.

"Yes, there were three old coins Nickel had had in his shop for years," he said casually. "They're Spanish eight reales pieces, as a matter of fact. The reales, you know..."

He began a dreary, dry-as-dust dissertation upon coins, dragging in every technical word he could think of. He spoke of their weight in grains, blessing that coin expert in London who had given him the information, and he led deftly on from coins to history, taking wild chances with the dynasties of Spain.

The manoeuvre succeeded. "How very interesting," Fay commented, fidgeting. Somebody yawned.

Coswarth nodded to Bealing, the butler, and the wireless started up suddenly.

Martin stopped, with an inward sigh of relief. He had headed them off, all except Madge. He did not think he had

Cornishman's Gold

By Anthony Mawes

entirely fooled her, but he had stopped her talk for the moment.

Harry Coswarth's parties broke up late. They danced almost without stopping until the National programme shut down. Then somebody suggested poker, and Martin's halting suggestion that he really thought he must be going was shouted down with cries of: "Don't break up the party."

He wandered off to get himself a whisky and soda, and found the sleepy-eyed Bealing returning from the cellar with some champagne.

Bealing was a comparatively recent importation into the Coswarth household. Sir Harry seldom kept a butler long; his ways were too erratic. This man was a wiry little fellow of about forty, with queer, light eyes and an impassive face.

"A glass of champagne, sir?"

"Good Lord, no, Bealing; give me an honest drink, for heaven's sake," Martin answered. "A whisky and soda, I think, or is there any beer about?"

Bealing smiled. "I'll see what I can do, sir," he said; and produced in a few moments a fine old Georgian tankard filled to the brim.

Martin took a long draught. "That's better," he said. "Thank you, Bealing."

He stayed chatting with the butler for some time, and learned, without surprise, that the man had already been given notice.

"I don't quite suit Sir Harry," he said. "I'm sorry, sir, because I like the neighbourhood. It seems to suit me. You weren't wanting a butler yourself, were you? Sir Harry will speak for me all right."

"No, Bealing—my establishment's much too small," Martin answered, amused. "But if I should hear of anything—"

"Very kind of you indeed, sir," Bealing bowed and Martin turned to go.

The man seemed on the point of saying something else; he hesitated then blurted out:

"You'll excuse me, sir, but—what you were saying at dinner about them coins."

"Yes," Martin said sharply.

"Sir—I—" he was growing confused. "I hope you won't think it a liberty, but I'd dearly like to see one of them pieces of eight, sir. Ever since I was a youngster I've been fond of

them treasure tales. Sort of romantic, they are, and I've never seen a piece of eight in my life. I hope you will excuse me the liberty, sir."

Bealing stood, with his funny blue eyes cast down fidgeting in his embarrassment. Martin was amused.

"Why certainly," he said, smiling. "Come over to 'Jago's' some time and I'll show you one, and a doubloon too."

"Would you, sir?" His eyes lit with enthusiasm. "I should appreciate it very much, sir."

Martin retailed this incident to his sister as they drove home through the mist of the early morning. She roused herself.

"Bealing coming to see you? Why?"

"Said he'd wanted to see a piece of eight all his life, and he loved treasure stories. So I told him to call. Who am I to refuse a respectable butler his moments of romance? He wanted to know if I'd give him a job too. Shall we take him on, Madge?"

Madge did not answer for a few moments. She shifted restlessly in her seat. Then she said slowly: "I'm not so sure about that

man Bealing; I don't like his eyes. You didn't notice him when we were talking? I did. He was listening to every word; and he didn't look a bit romantic. He made me shiver."

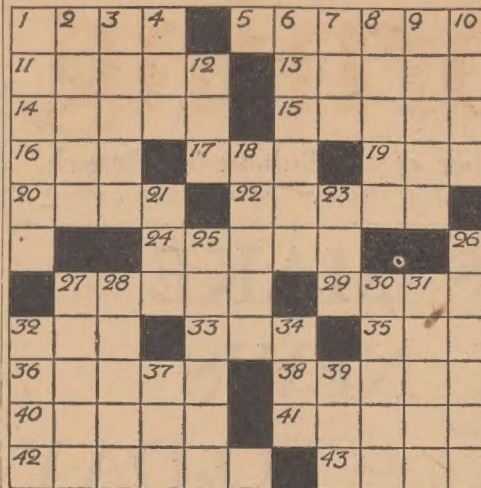
MARTIN managed to laugh off his sister's suggestions, but it left him with a distinctly apprehensive feeling. He wanted to excite no curiosity whatever; but there had been that unexpected encounter with Gregory Pyne, and the question at dinner; and now came Madge's vague suspicions about Bealing. He tried to persuade himself that he was worrying over nothing; but in vain. The only thing to do, he decided, was to get into the Fern Cave as soon as possible and dig. He must have a quiet look at that opening in the roof, and see if he could not lower himself down there. If so, and his surmise was correct, he could work undisturbed in the cave at ordinary tides, while the entrance was covered by the waters of the creek.

Martin walked over to the "Coswarth Arms" for lunch.

He stood shuffling and coughing for some minutes in the hall before

CROSSWORD CORNER

CLUES ACROSS. 1 Opening. 5 Egyptian General.



11 Carp
13 Cherish
14 Swiftly.
15 Condition.
16 Paid up.
17 Empty space.
19 Young animal.
20 Excuse.
22 Tradesman.
24 Bird.
27 Chirp.
29 Pain.
32 Garden tool.
33 Moisture.
35 Edge.
36 Adjudge.
38 Became active.
40 Stage show.
41 Presented.
42 Trims with
beak.
43 Trial.

GLAD CRAM T
E HOBO OIVA
AS TADPOLES
RIB AIR ELK
LOG COY V
POLEMIC LED
E STALEMATE
ACT PUDD L
SUET PUDD L
BROKER AIT
EASY REFUTE

CLUES DOWN.

1 Does negligently. 2 Part of coat. 3 Elliptical.
4 Neuralgia. 6 Yoke oxen. 7 Groove. 8 Male bird. 9 In motion. 10 Marsh plant. 12 Limb.
18 Lessen. 21 Card. 23 Pierce parrot. 25 Blush. 26 Feel regret. 27 Tall structure. 28 Interlace. 30 Split. 31 Walks. 32 String instrument. 34 Shake. 37 Shrub. 39 Sense.

anybody appeared, and then it was Mrs. Pendrew who came from the end of the ill-lighted corridor. She greeted him with a faint smile.

"Have they kept you waiting, Mr. Lynn?"

"Not a couple of seconds," he said politely. "I am looking for Mr. Watson."

"Fortunately there's nothing much to do just now," she went on. "The house is almost empty—there's only Mr. Watson. But it is a little awkward to-day, because we have a new waiter."

"What, has William gone?"

"Yes. He wasn't very satisfactory. My husband has engaged Sir Harry Coswarth's butler. I don't know how it will turn out."

"Not Bealing?" Martin asked in surprise.

"Yes."

"Really? He told me he was leaving, when I was dining there the other day."

"Of course it upsets things at first," she answered.

"I expect it does. But Bealing's a good fellow. If you wouldn't mind letting Mr. Watson know I'm back," he said, turning to go. "Good-bye, Mrs. Pendrew." He set out for Ruthdinas Point.

It was a boisterous afternoon, with heavy clouds blowing up-Channel and the wind bringing gusty scuds of rain. Martin made his way carefully down the creek side of the Point until he reached a grassy ledge some thirty feet above the tumbling water round the rocks near the entrance to the cave.

It was covered many feet now by the sea; but he knew its position fairly accurately, and he began to try to work out exactly where the roof entrance to it might be. It was not an easy task, for the headland here fell away into a series of rough masses, product of some long-ago cliff fall.

It was a difficult scramble, demanding caution and agility, but he managed it; and good

fortune alone saved him from an unpremeditated entry into the cave beneath. He took a careless step forward on to what looked like solid earth, and it suddenly gave way beneath his foot. He grabbed at a boulder and saved himself. Then gingerly he peered into a black and cavernous opening.

It was pitch dark and eerie within. The noise of water came to his ears as the rising swell beat into the mouth of the cave and broke upon its sandy floor. Thirty feet of rope would be enough, he reckoned. There were plenty of rocks round about that would hold it. And then you lowered yourself down into—what?

He started taking measurements with a length of string, while the Channel scud swept in on a howling wind and the birds screamed and wheeled about him. But Martin was unconscious of their mournful cries.

An angry squall came racing over the sea, whipping the rising waves into driving foam. Martin turned up his coat collar, and shifted towards an upstanding lichen-covered rock for shelter. But he moved heedlessly, absorbed in his thoughts; and this time he was too late. The earth sagged, then broke once more beneath him. He flung himself flat, clutching frantically at the coarse grass.

But it was no use. The thin soil gave way under the strain, and he felt himself slipping, slowly at first, then more swiftly, into the uncanny darkness of the pit which gaped at his feet.

(To be continued)

WANGLING WORDS—311

1. Add help to MEN and get a woman.
2. In the following proverb both the words and the letters in them have been shuffled. What is it? Gruntin 'sit neal glon sha on a ahnt.
3. Altering one letter at a time, and making a new word with each alteration, change WALK into RACE and then back again into WALK, without using the same word twice.
4. Find the hidden river in: There's nothing to beat a nice fat ham, especially for lunch. (The required letters will be found together and in the right order.)

Answer to Wangling Words—No. 310

1. F-IV-ER.
2. A stitch in time saves nine.
3. BAR, ear, err, ere, are, ALE, all, ail, air, sir, fir, far, BAR.
4. C-oven-Try.

QUIZ for today

1. A gowan is a beggar, small pony, flower, garment, part of a plough, juggler?
2. Who wrote (a) Men Like Gods, (b) Gentlemen Prefer Blondes?
3. Which of the following is an intruder, and why? Grandfather, Uncle, Father, Mother, Brother, Nephew, Son.
4. What was Nelson's naval rank at the time of his death?
5. What does the musical term "con fuoco" mean?
6. How many balls are used in croquet?
7. Which of the following are mis-spelt? Gentian, Geology, Gesture, Giblets, Gladiater, Glacial, Gondoleer.
8. What is a runcible spoon?
9. Write down the figure 4 four times in such a way that the result amounts to 17.
10. The estimated population of the British Empire is: 240, 340, 440, 540 or 640 millions?
11. What six English coins amount to 10s. 6d.?
12. Name three wild flowers beginning with "Dog."

Answers to Quiz in No. 364

1. Slave.
2. (a) Oliver Goldsmith, (b) Rudyard Kipling.
3. 16 breaks a series made by adding 3 at each step.
4. About 500.
5. New York.
6. Socrates.
7. Gossamer, Gramary.
8. "Uncle Tom's Cabin."
9. Pound note.
10. 12 feet by 6 feet 1½ inches.
11. Ireland.
12. William Willett, 1907.



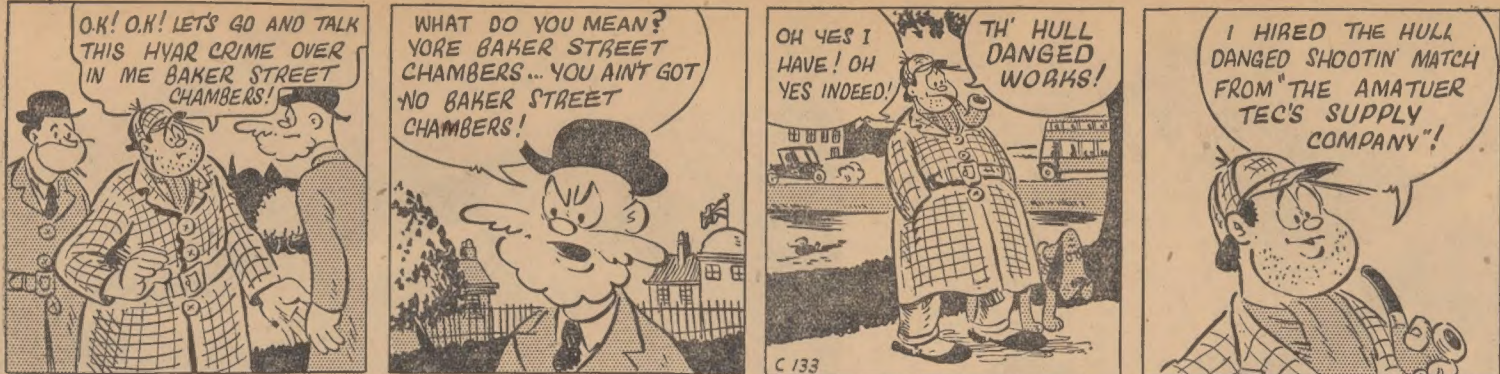
CHINA HAD IT FIRST.

Like so many other things that China had before they were adopted by "civilisation," here is an ancient go-car, complete with nipper and his little table for his playthings; and his big sister to push him along. The picture was taken in the suburbs of Pekin. The go-car may be useful as a model to our inventors. Maybe there's a fortune for the man who can bring the idea home.

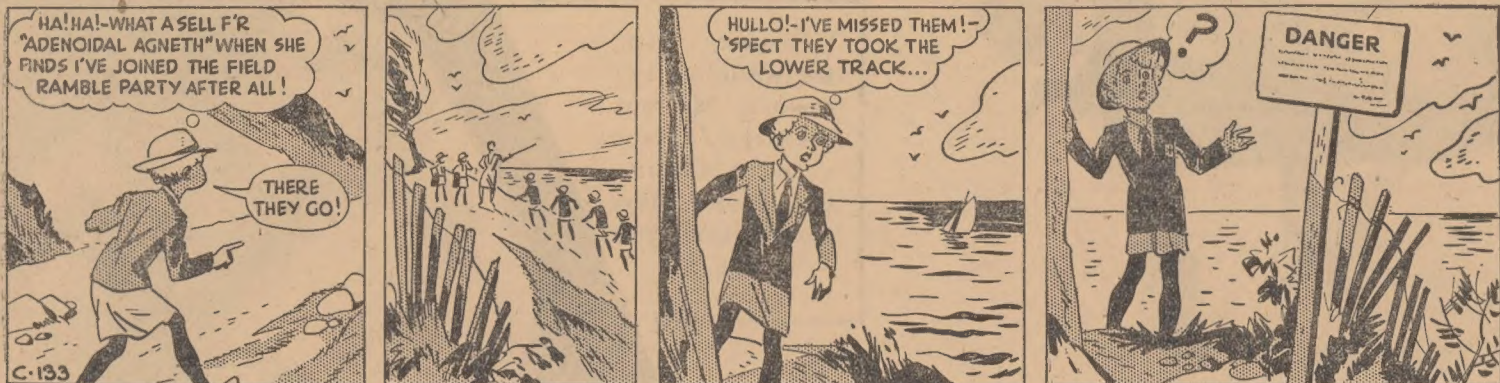
JANE



BEELZEBUB JONES



BELINDA



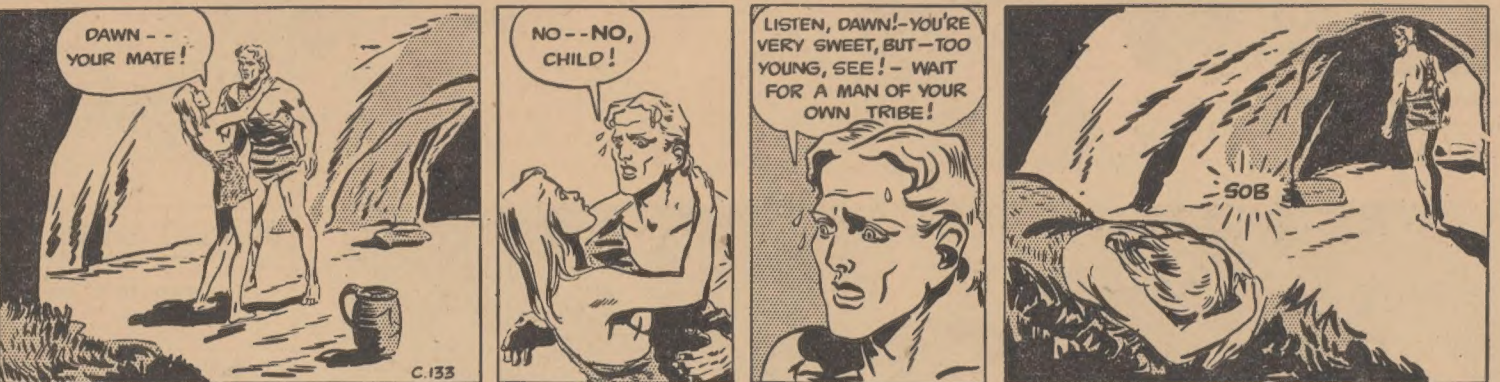
POPEYE



RUGGLES



GARTH



JUST JAKE



SIR FREDERICK WALL, the man who gave us the F.A. Cup Finals, died recently with a score of eighty-five to his credit.

It was under his guidance that the Wembley Cup Final became a world sports classic. His early training in a solicitor's office was perhaps responsible for the precise and careful way in which he performed his duties.

When Alex Jackson's break with Chelsea occurred and Jackson had no one to turn to for advice, he was dubious when a friend suggested that he should see Sir Frederick. But Sir Frederick offered to act as an unofficial intermediary to bring about the resumption of Jackson's career.

Sir Frederick had seen fifty Cup Finals, and it was he who introduced "Abide With Me" into the community singing at Wembley.

Born at Battersea, he used to play football for a London club called the Rangers in Clapham Common. He entered football legislation in 1881 as a member of the London F.A.

After representing Middlesex on the Football Association Council from 1891 to 1895, he was appointed secretary of the Football Association the same year. At that time membership of the F.A. numbered about 1,000. It had reached 750,000 when he retired.

Sir Frederick always believed that football in the main must be an amateur sport. He did not think the standard of play when he retired from the F.A. secretaryship was as good as it was in his early days. He doubted the wisdom of the winning bonus.

THE Americans are falling for the English girls over there with their natural, healthy "peaches and cream" complexions and modest manners.

The American magazine, "Look," with a nation-wide circulation, has published an article devoted entirely to a British Wren, Third Officer Elizabeth Bradley. She is the daughter of a retired British Army officer, of Lymington, Hampshire.

It said: "She is a vibrant, violet-eyed, English girl of twenty-one, who had never crossed the Atlantic until she arrived recently at her New York post, where she will serve as censor in the British Fleet Mail Office."

"Trim, low-voiced, with a complexion comparable to pre-war peaches and cream, she is as amazed by Americans as they are by her."

"I'm having masses of fun," said Elizabeth. "But I get frightfully tangled. When I asked for some suspenders they showed me men's braces."

RECENTLY come to town is a pig farm, and Mrs. Jeanne Giron-Conland brought it.

In the grounds of the Convent on Central Hill, Crystal Palace, three or four hundred pigs are getting used to London air after a trip up from their country birthplace. Reason for the upheaval, the pig keeper advises, is food; in the country the population is scarcer and less wasteful, so the few pig-bins were insufficient to feed the hogs.

Latest reports show that the family is doing well and settling down to life in the big city. Mrs. Giron-Conland is seeking support to make this a permanent piggery post-war.

SOME animals and plants which have the remarkable power of collecting precious metals and storing them in their bodies may soon be used as "miners" for the benefit of mankind.

The idea came from a former President of the American Society of Chemical Engineering, Dr. Arthur D. Little. He contends that the plants and animals could be bred and used to collect gold and many other precious minerals.

Gold, vanadium and strontium occur in quantity in the sea or in the soil, and are often stored in marine animals.

Copper, arsenic and a radium-like substance are all found in certain plants and animals in much greater quantities than they normally occur in the sea or the soil.

One special plant in America will grow only in the presence of gold, which it extracts from the soil. This has made the plant valuable to prospectors as an indication of gold veins.

FEAR no man—do right;
Fear all women—don't write.

Ron Richards

Good Morning



MAN OVERBOARD!
"Westward Ho," said this Briny Boy as he mounted at a local Gymkhana. What he said when he dismounted we cannot print.



Thank goodness for the Licensing Laws.

"Honest, Rita, we wouldn't say a word. No, but we mean... Not even to Columbia, whose Hayworth star you are."



"In the background, gentlemen, you have the Norman Church of East Meon, Hants, and all around, the village. But, in the foreground **THE GEORGE**. Nuff said!"



Now that's not fair! Little Joan in the centre was there before the photograph was taken or the race was started. Still, this nursery school in Kent gave her first prize.

OUR CAT SIGNS OFF

"I wouldn't blab either."

